PROPERTY PLANNING COMMON ELEMENTS

COMPONENTS OF MASTER PLANS

HABITATS AND THEIR MANAGEMENT

Surrogate Grasslands (Planted Prairie/Warm-season Grass and Cool-season Grass)

Description

Approximately 2.1 million acres of native prairie habitats existed in Wisconsin at the time Europeans arrived some 150 years ago. Over 99% of these native habitats have been lost, largely due to conversion to agriculture (farming and grazing), woody encroachment due to fire suppression, and residential and industrial development. "Surrogate grasslands" is the term used for anthropogenic habitats that are similar in structure to the prairies that formerly existed, and that provide usable habitat for some grassland species, particularly mammals and birds. Surrogate grasslands now represent the vast majority of the grassland habitat remaining in the state. They include agricultural habitats such as hayfields, small grains (wheat, oats, and barley), fallow fields, old field (formerly cropped fields), pastures, and set-aside fields (e.g., Conservation Reserve Program (CRP)) planted to non-native cool-season grasses such as smooth brome, timothy, redtop, orchard grass, bluegrass, and quack grass, or native warm-season grasses such as big bluestem, little bluestem, Indian grass, switch grass, and side-oats grama. Young conifer plantations, orchards, parks, golf courses, airports, roadsides, cut-over or burned-over forest, and mossed bogs (bogs from which sphagnum moss has been removed commercially) can also serve as surrogate grasslands. Surrogate grasslands also include idle grasslands on public or private land managed for wildlife. These are usually composed of non-native grasses and forbs but can also be plantings of native species (restorations), though typically falling far short of the species diversity of the original prairie.

Ecological Landscape Opportunities

Surrogate grasslands occur in all the Ecological Landscapes of the state; however, the highest concentrations are found in:

- Western Prairie
- Western Coulee and Ridges
- Southwest Savanna
- Central Sand Plains
- Northwest Sands
- Southeast Glacial Plains

Rare Species

Many Species of Greatest Conservation Need (SGCN) are associated with surrogate grassland habitats based on the findings in Wisconsin's 2015 Wildlife Action Plan. To learn more, visit the Grassland communities page and click on "Surrogate grasslands".

Threats

- Conversion to more intensive agriculture (e.g., row crops) or development can destroy and/or fragment surrogate grasslands.
- Excessive consumption or trampling by grazers can destroy plants and compact soil, leading to erosion and loss of grassland sod.
- Habitat quality in surrogate grasslands is threatened by woody encroachment and invasion by undesirable non-native invasive plants.
- Excess nutrients and sedimentation from adjacent land uses (e.g., agricultural fields; lawns; road crossings, etc.) can degrade habitat quality in surrogate grasslands.
- Shifts in agricultural commodity prices can threaten the longevity of surrogate grassland created through set-aside programs (e.g., CRP), especially on private lands.
- Climate change may make surrogate grasslands more vulnerable to woody encroachment and invasion by non-native invasive plants, and may narrow opportunities to apply prescribed fire.

Management Techniques

- Prescribed fire
- Mowing/brushing and haying
- Pesticide treatments
- Grazing

Management Prescriptions

- Wherever possible, manage surrogate grasslands within a complex of interconnected, related habitats (e.g., native prairie, oak barrens or savanna, sedge meadow, emergent marsh), preferably with a lowland-to-upland continuum.
- Use surrogate grasslands to buffer native habitats from surrounding land uses.
- Strive to enlarge and connect small or disjunct grassland patches. As a general rule, the larger the patch, the more beneficial to grassland-dependent species.
- When conducting restorations, plant a diversity of native species, especially forbs, from local seed sources whenever feasible.
- Where possible, use prescribed fire to improve or maintain structure and function in surrogate grasslands, to suppress the encroachment of woody species, and in some cases to control non-native invasive plants.
- Use grazing, cutting, mowing, brushing and herbicides (when necessary) to remove trees, shrubs, and invasive species. Management should recognize that virtually all grassland species will tolerate a small amount of woody vegetation, and that some scattered shrubs or shrub patches can benefit certain grassland species (e.g., Bell's vireo; brown thrasher; field sparrow).
- Where possible, remove treelines, hedgerows, fence lines, and other linear features that fragment grasslands and inhibit species movements.

- Follow all applicable Grassland and Savanna Management protocols to minimize negative impacts of management practices on rare/sensitive species.
- Follow soil and water quality BMPs to minimize adverse impacts of excess nutrients and sedimentation on surrogate grasslands.